

AMENDMENTS TO THE CLAIMS

1-45 (Cancelled)

46. (Currently Amended) ~~Method~~ A computerized method for ~~representing and/or~~ manufacturing an article of manufacture having a plurality of structural design variants comprising the steps of:

defining a plurality of positions each corresponding to a different predefined location on the article of manufacture; and

assigning at least one position variant to each position, each position variant identifying a specific part that may be used at the respective position in accordance with a particular design variant, so that, in a particular article of manufacture, only one of the at least one position variants can be selected for the respective position; and

defining a plurality of links each between particular pairs of positions, each link corresponding to a physical connection between parts in a pair of locations in the article of manufacture, which pair of locations corresponds to the respective pair of positions.

47. (Currently Amended) ~~Method~~ The computerized method of claim 46, further comprising the step of:

assigning at least one connection variant to each link, each connection variant specifying a particular method of joining a part in a first position of the respective pair of positions to a part in the other position of the respective pair of positions.

48. (Currently Amended) ~~Method~~ The computerized method of claim 46, further comprising the step of:

formulating a code rule for each position variant indicating when the particular variants should be selected in accordance with specified design options;

upon receiving an order containing specified design options:

evaluating the code rule for each position variant to select a specific position variant for each position and thereby identify a specific part for use in the location corresponding to the respective position;

55. (Currently Amended) ~~Method~~ The computerized method of claim 54, wherein a sequence of orders in the order matrix indicates a time sequence of manufacture, the method further comprising the steps of determining, in accordance with the specified start time, a build time when the article of manufacture associated with each particular order will be manufactured;

the step of mapping comprising mapping the evaluations of the unique code rules to the corresponding code rules in the position variant definitions only for those particular orders which have a build time within the validity period of the respective position variant.

56. (Currently Amended) System for use in ~~manufacturing~~ assisting in the manufacture of an article of manufacture having a plurality of structural design variants, the system comprising:

a computer having a processor and a memory;

the memory including information representing a bill of materials BOM containing a plurality of position variant definitions, each position variant definition being assigned to a particular position corresponding to a location in the article of manufacture, each position variant definition further identifying a specific part, and including a code rule indicating when the position variant definition should be selected and thereby when the identified part should be used at the corresponding location;

the memory further including information representing at least one order specifying particular design options which define a particular design variant of the article; wherein each code rule for a particular design variant is a logical statement including one or more unique code rule elements;

the processor being configured to:

(a) extract unique code rules from the BOM and evaluate the code rules for each position variant definition in accordance with the respective design options for each order to identify an appropriate part for use in each location of the corresponding particular design variant of the article; and

(b) produce an output indicating for each order the appropriate parts for use in the corresponding particular design variant of the article;

~~a program module~~ determining, in accordance with the specified start time, a build time when the article of manufacture associated with each particular order will be manufactured; and

~~the mapping program module comprises a module~~ mapping the evaluations of the unique code rules to the corresponding code rules in the position variant definitions only for those particular orders which have a build time within the validity period of the respective position variant definition.

68. (Currently Amended) ~~Computer program~~ The programmable medium of claim 66, wherein the computer program further performs the step of comprising a program module repeating the mapping step upon receipt of a resequenced order matrix to determine revised manufacturing parts requirements in accordance with the resequenced order matrix.